Subject Overview
Year 8 Maths

Whilst following the guidelines of the National Curriculum we aim to offer a broad based curriculum which will result in acquisition of knowledge, develop enjoyment of learning and will equip our pupils for work and leisure as active, confident and responsible members of society.

In particular we aim to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programme of study for key stage 4 is organised into apparently distinct domains, but pupils should develop and consolidate connections across mathematical ideas. They should build on learning from key stage 3 to further develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge wherever relevant in other subjects and in financial contexts.

The expectation is that the majority of pupils will move through the programme of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Together, the mathematical content set out in the key stage 3 and key stage 4 programmes of study covers the full range of material contained in the GCSE Mathematics qualification. Wherever it is appropriate, given pupils' security of understanding and readiness to progress, pupils should be taught the full content set out in this programme of study.

Students are taught in mixed attainment groups in Y7 and Y8, where students will develop their understanding of Number, Algebra, Ratio and Proportion, Geometry, Probability and Statistics. All students are exposed to mathematical tasks that excite, stretch and enable them to progress at their own rate. Students will also be introduced to an online learning platform MathsWatch, which will supplement their learning in the classroom.

In Year 9, students will be put into sets. Students will follow the expected Stage 9, but for those students who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

There will be three assessment points throughout the year, which will be based on students learning that year. There will be a mixture of assessments, online and written.

Students remain in sets in Key Stage 4 where each set will follow a GCSE tailored stage of learning which will build on their knowledge acquired from Key Stage 3 and develop problem-solving and reasoning skills in these core areas of Mathematics. In Year 11, students will complete the curriculum and prepare for their GCSE examination through past papers and areas of development identified from their mock examinations. Students will also be encouraged to take advantage of online platforms such as MathsWatch, Dr Frost and Maths Genie to enhance their independent revision.

The GCSE assessments will cover the following content headings:

- Number
- Algebra
- Ratio, proportion and rates of change
- Geometry and measures
- Probability
- Statistics

Discipline	Year 7	Year 8
Number	St7 Numbers and the number system St7 Calculating St7 Checking, approximating and estimating St7 Counting and comparing St7 Exploring fractions, decimals and percentages St7 Calculating fractions, decimals and percentages	St8 Numbers and the number system St8 Calculating St8 Exploring fractions, decimals and percentages St8 Calculating fractions, decimals and percentages
Algebra	St7 Algebraic proficiency: tinkering St7 Pattern sniffing St7 Solving equations and inequalities	St8 Algebraic proficiency: tinkering St8 Pattern sniffing St8 Solving equations and inequalities St8 Algebraic proficiency: visualising
Ratio, Proportion and Rates of change	St7 Proportional reasoning	St8 Proportional reasoning
Geometry and Measures	St7 Visualising and constructing St7 Investigating properties of shapes St7 Measuring space St7 Investigating angles St7 Calculating space St7 Mathematical movement	St8 Visualising and constructing St8 Investigating angles St8 Calculating space
Statistics & Probability	St7 Presentation of data St7 Measuring data	St8 Understanding risk I St8 Understanding risk II St8 Presentation of data St8 Measuring data
Focus days	Annual STEM Focus Day	Annual STEM Focus Day

In our Maths curriculum, wherever possible we ground lesson examples in day-to-day skills required by musicians, many of whom are self-employed. Students will study Calculating Fraction, Decimals and Percentages in Year 7 and Year 8; were students will work on musical experiences and finances in the real word using percentages. For example, in Year 7, students will interpret percentages, compare two quantities using percentage and solve problems with percentage change, including percentage increase/decrease when focuses on booking a musical experience. And in Year 8, students will work with percentages greater than 100% and solve problems involving percentage change, including original value problems and simple interest when focusing on the finances of a musician.